

REMARKS***Summary of the Amendment***

Upon entry of the above amendment, claims 5, 18, 22, 26, and 34 will have been amended, claims 32 and 33 will have been canceled without prejudice or disclaimer, and new claims 35 – 48 will have been entered for consideration by the Examiner. Accordingly, claims 1, 2, 4 – 6, 8, 10 – 20, 22, 23, and 25 – 48 are currently pending.

Summary of the Official Action

In the instant Office Action, the Examiner has objected to claim 5 based upon an informality and rejected claims 1, 2, 4 – 6, 8, 10 – 20, 22, 23, and 25 – 34 over the art of record. By the present amendment and remarks, Applicants submit that the objections and rejections have been overcome, and respectfully request reconsideration of the outstanding Office Action and allowance of the present application.

Amendment Fully Supported by the Original Disclosure

The above amendment does not add new matter to the application and is fully supported by the specification. In particular, the amendment to independent claim 18 finds support in paragraph [0014], the amendment to now independent claim 34 find support in claim 18, new claims 35 and 42 find support in paragraph [0013], new claims 37 and 44 find support in paragraph [0050], new claims 38 and 45 find support in paragraph [0050], new claims 39 and 46 find support in paragraph [0022], new claims 40 and 47 find support in paragraph [0050], and new claims 41 and 48 find support in paragraph [0052].

Accordingly, Applicants respectfully request reconsideration and timely withdrawal of the pending objections and rejections for the reasons discussed below.

Objection to Claims is Moot

Applicants submit that the objection to claim 5 is moot in view of the instant amendment to claim 5. In particular, claim 5 has been amended to change "heating element" to "heating device," such that the claim terms have adequate antecedent basis.

Accordingly, Applicants request that the Examiner confirm the claims are in proper form.

Traversal of Rejection Under 35 U.S.C. § 102(b)

1. Over Fuller

Applicants traverse the rejection of claims 1, 2, 4 – 6, 12, 18 – 20, 22, 23, and 28 – 34 under 35 U.S.C. § 102(b) as being anticipated by FULLER et al. (U.S. Patent No. 6,065,402) [hereinafter "FULLER"]. The Examiner asserts FULLER shows all of the features of the invention. Applicants traverse the Examiner's assertions.

By way of review, Applicants note that, in general, heat is generated during the operation of printing mechanisms due to the churning of rubberized ink transfer rollers and to the development of heat by gears and drives. If the generated heat exceeds the operating temperature of the printing mechanism, uneven ink transfer can occur, which negatively effects print quality.

Accordingly, Applicants' independent claim 1 recites, *inter alia*, said tempering device comprises at least one of at least one heating device and at least one cooling element, such that *said cooling element comprises a cooling plate*, and *said ink supply, metering device, and ink nozzle being at least partially located on said cooling plate*.

Applicants' independent claim 18 recites, *inter alia*, adjusting a temperature of ink in at least one of an ink nozzle, ink supply and metering device in the printing mechanism via the tempering device, such that *the adjusting of the temperature of ink comprises adjusting a temperature of the printing mechanism with the cooling element*. Further, Applicants' now independent claim 34 recites, *inter alia*, adjusting at least one of a temperature and a viscosity of the ink in the printing mechanism via the tempering device, such that *the adjusting of the at least one of the temperature and the viscosity of the ink comprises adjusting the temperature of the printing mechanism with a cooling element*. Applicants submit FELLER fails to disclose at least the above-noted features of the instant invention.

As Applicants have noted previously, FELLER shows a inking device having an ink duct 2 filled with ink 3, so that ink 3 is transferred to a structured roller or cup roller 4. Excess ink 3 is removed from the cup roller 4 by a blade 5. See Figure 1 and Col. 2, lines 45 – 55. Further, because frictional heat develops between cup roller 4 and blade 5 on upper edge 5A, FELLER seeks to moderate temperature increases in the ink through the use of insulation plate 6, which is arranged between blade 5 and the ink 3 contained in ink duct 2, and a heat dissipation plate 7 and cooling device 9. See Figure 1 and Col. 4, lines 35 – 44. Moreover, heat dissipation plate 7 and cooling device 9 are utilized to draw the heat away from blade upper edge 5A and away from ink 3 in ink duct 2, not to control or adjust the temperature of the ink, as asserted by the Examiner.

Thus, Applicants submit that, while FELLER provides a structure and process to reduce and/or avoid heat transfer from the blade to the ink, see Col. 4, lines 42 – 44, there is no disclosure, or even an arguable suggestion of *adjusting the temperature of ink with a cooling device*, as recited in at least independent claim 18 and 34, nor is there any

disclosure, or arguable suggestion of, an arrangement in which the cooling element comprises a cooling plate, and the *ink supply, metering device, and ink nozzle are at least partially located on said cooling plate*, as recited in at least independent claim 1.

Accordingly, while FELLER provides an arrangement to prevent the heating of ink due to increased frictional heating of blade 5, Applicants note there is no disclosure of a cooling device to adjust the temperature of the ink. As noted above, cooling device 9 of FELLER cools dissipation plate 7, which draws heat away from the upper blade edge 5A and cup roller 4. Moreover, as shown in the figures, only dissipation plate 7 is located on cooling device 9, and there is no arguable teaching by FELLER that dissipation plate 7 is in contact with an ink supply, metering device, and ink nozzle. As such, Applicants submit there is no arguable disclosure of the arrangement of elements recited in at least independent claim 1, i.e., the cooling element comprises a cooling plate, and the ink supply, metering device, and ink nozzle are at least partially located on the cooling plate.

Further, Applicants note, in disclosing insulator 6 is arranged between the blade 5 and ink 3 so as to prevent the heat generated in blade 5 via frictional engagement with cup roller 4 from being passed to the ink, FELLER only discloses preventing the heating of the ink. Thus, Applicants submit FELLER fails to provide any teaching of adjusting the temperature of the ink, and certainly no disclosure of adjusting the temperature of the ink with a cooling device, as recited in at least independent claims 18 and 34.

Applicants submit that the act of preventing the heating of ink, as performed by FELLER, is not the same as the act of adjusting the temperature of ink, as recited in pending claims. Further, FELLER likewise fails to provide any teaching of adjusting a temperature of ink with a cooling element in accordance with the features of the present

invention, such that FELLER fails to anticipate the instant invention, as recited in at least independent claims 18 and 34. Applicants note that, as FELLER fails to disclose elements such as ink supply, metering device, and ink nozzle at least partially located on a cooling plate, the applied document likewise cannot anticipate the instant invention as recited in at least independent claim 1.

Because FELLER fails to disclose at least the above-noted features of at least independent claims 1, 18, and 34, Applicants submit that the applied art fails to show each and every recited feature of the present invention. Accordingly, Applicants submit that the Examiner has failed to provide any adequate evidentiary basis to support a rejection of anticipation under 35 U.S.C. §102(b) and that the instant rejection should be withdrawn.

Further, Applicants submit that claims 2, 4 – 6, 12, 19, 20, 22, 23, and 28 – 33 are allowable at least for the reason that these claims depend from allowable base claims and because these claims recite additional features that further define the present invention. Moreover, Applicants submit that, as the above-noted claims recite additional features of the invention not disclosed by FELLER, these further claims are separately patentable over the art of record.

Accordingly, Applicants request that the Examiner reconsider and withdraw the rejection of claims 1, 2, 4 – 6, 12, 18 – 20, 22, 23, and 28 – 34 under 35 U.S.C. §102(b) and indicate that these claims are allowable.

2. Over Voge

Applicants traverse the rejection of claims 1, 2, 8, 10 – 14, 18 – 20, 25 – 28, and 32 – 34 under 35 U.S.C. §102(b) as being unpatentable over VOGÉ (U.S. Patent No. 6,516,721). The Examiner asserts that VOGÉ shows a tempering device comprising at

least one heating device to adjust a temperature of ink in at least one of an ink supply, ink nozzle, or metering device. Applicants traverse the Examiner's assertions.

Applicants initially note that, as the instant application was filed on October 6, 2003 and VOGÉ issued on February 11, 2003, VOGÉ is not prior art under 35 U.S.C. § 102(b), as asserted by the Examiner. Accordingly, Applicants arguments are presented as if this rejection was made under 35 U.S.C. § 102(a).

As discussed above, Applicants' independent claim 1 recites, *inter alia*, said tempering device comprises at least one of at least one heating device and at least one cooling element, such that said cooling element comprises a cooling plate, and *said ink supply, metering device, and ink nozzle being at least partially located on said cooling plate*. Applicants' independent claim 18 recites, *inter alia*, adjusting a temperature of ink in at least one of an ink nozzle, ink supply and metering device in the printing mechanism via the tempering device, such that the adjusting of the temperature of ink comprises *adjusting a temperature of the printing mechanism with the cooling element*. Further, Applicants' now independent claim 34 recites, *inter alia*, adjusting at least one of a temperature and a viscosity of the ink in the printing mechanism via the tempering device, such that the adjusting of the at least one of the temperature and the viscosity of the ink comprises *adjusting the temperature of the printing mechanism with a cooling element*. Applicants submit VOGÉ fails to disclose at least the above-noted features of the instant invention.

Applicants initially note that the Examiner has not identified, or even asserted, a cooling plate disclosed by VOGÉ, nor has the Examiner identified or asserted VOGÉ discloses any arrangement in which the ink supply, metering device, and ink nozzle being at least partially located on the cooling plate, as recited in at least independent claim 1.

Thus, Applicants submit that the Examiner has failed to even assert a *prima facie* case of anticipation under 35 U.S.C. § 102(a).

As discussed in the previous response, Applicants note VOGÉ shows a printing machine having a conveying method including a compressed air tank 60, inlet line 66, and pre-heater 70 in communication with valve 34 and nozzle 36, which sprays ink onto drum 38. See Figure 4 and Col. 8 – 39. Moreover, Applicants note VOGÉ discloses that a piezoelectric valve 34 includes a heater (which is not shown in the figures) in order to maintain the valve at the same temperature “so that the printing ink therein does not cool down.” Col. 8, lines 17 – 20.

Thus, Applicants submit that, not only does VOGÉ not disclose a cooling plate, as recited in at least independent claim 1, or a cooling element, as recited in at least independent claims 18 and 34, but VOGÉ teaches against the use of such an element.

Contrary to the expressly recited features of the instant invention, Applicants note VOGÉ fails to disclose adjusting the temperature of the ink with a cooling element, as recited in at least independent claims 18 and 34. Instead, VOGÉ only discloses the use of a pre-heater 70 in communication with a heatable valve 34 to prevent ink from cooling, such that this document does not even arguably suggest adjusting the temperature of printing ink with a cooling element. Moreover, Applicants note, as VOGÉ fails to provide any suggestion of a cooling plate, this document certainly fails to provide any disclosure of an ink supply, metering device, and ink nozzle at least partially located in the cooling plate, as recited in at least independent claim 1.

Because VOGÉ fails to disclose at least the above-noted features of Applicants’ invention, Applicants submit that the applied art fails to show each and every recited

feature of the present invention. Accordingly, Applicants submit that the Examiner has failed to provide any adequate evidentiary basis to support a rejection of anticipation under 35 U.S.C. §102(a) and that the instant rejection should be withdrawn.

Further, Applicants submit that claims 2, 8, 10 – 14, 18 – 20, 25 – 28, 32 and 33 are allowable at least for the reason that these claims depend from allowable base claims and because these claims recite additional features that further define the present invention. Moreover, Applicants submit that, as the above-noted claims recite additional features of the invention not disclosed by VOGÉ, these further claims are separately patentable over the art of record.

Accordingly, Applicants request that the Examiner reconsider and withdraw the rejection of claims 1, 2, 8, 10 – 14, 18 – 20, 25 – 28, and 32 – 34 under 35 U.S.C. §102(b) and indicate that these claims are allowable.

Traversal of Rejections 35 U.S.C. § 103(a)

1. *Over Blau in view of Voge*

Applicants traverse the rejection of claims 1 and 16 under 35 U.S.C. §103(a) as being unpatentable over BLAU et al (U.S. Patent Application Publication No. 2001/0013289 A1) [hereafter “BLAU”] in view of VOGÉ. The Examiner asserts BLAU shows the recited features of the invention except for regulating the consistency of the printing ink, but it would have been obvious to modify BLAU to heat the ink and locate the heating device in the ink supply, in view of the teachings of VOGÉ. Applicants traverse the Examiner’s assertions.

Applicants initially note that the Examiner’s asserted rejection fails to identify each and every feature of Applicants’ invention. In particular, the Examiner has not identified, or

even asserted, a cooling plate disclosed by either BLAU or VOGÉ, nor has the Examiner identified or asserted BLAU or VOGÉ disclose any arrangement in which the ink supply, metering device, and ink nozzle being at least partially located on the cooling plate, as recited in at least independent claim 1. Thus, Applicants submit that the Examiner has failed to even assert a *prima facie* case of unpatentability under 35 U.S.C. § 103(a).

As discussed above, Applicants note that VOGÉ not only fails to teach or suggest a cooling plate and the ink supply, metering device, and ink nozzle are at least partially located on the cooling plate, as recited in at least independent claim 1, but expressly teaches against such a feature in that VOGÉ expressly discloses that heaters are utilized in order to prevent the ink from cooling.

Further, while BLAU discloses rollers 47 and 49, which bias their respective resilient peripheral portions 46 upon the adjacent roller or rollers of the imprinting apparatus 23 makes it possible to regulate the consistency of the printing ink, see page 4, paragraph [0047], this document likewise fails to disclose or suggest the recited *cooling element comprises a cooling plate, and the ink supply, metering device, and ink nozzle are at least partially located on the cooling plate*, as recited in at least independent claim 1.

Because neither applied document of record teaches or suggests at least the above-noted features of the invention recited in at least independent claim 1, Applicants submit that no proper combination of these documents can even arguably render unpatentable the combination of features recited in at least independent claim 1.

Applicants note that, while the Examiner asserts it would have been obvious to heat the ink of BLAU with a heating device, such as taught by VOGÉ, the applied art fails to teach or suggest the recited cooling plate or the recited arrangement of the ink supply,

metering device, and ink nozzle at least partially located on the cooling plate, as recited in at least independent claim 1. Moreover, because VOGÉ expressly teaches against cooling the ink, the art of record fails to provide the requisite motivation or rationale for modifying BLAU in any manner that would render unpatentable the invention recited in at least independent claim 1.

Further, Applicants submit that claim 16 is allowable at least for the reason that it depends from an allowable base claim and because it recites additional features that further define the present invention. Moreover, Applicants submit that, as the above-noted claims recite additional features of the invention not disclosed by any proper combination of BLAU in view of VOGÉ, these further claims are separately patentable over the art of record.

Accordingly, Applicants request that the Examiner reconsider and withdraw the rejection of claims 1 and 16 under 35 U.S.C. §103(a) and indicate that these claims are allowable.

2. Over VOGÉ in view of GARNER

Applicants traverse the rejection of claim 15 under 35 U.S.C. §103(a) as being unpatentable over VOGÉ in view of GARNER et al. (U.S. 5,611,278) [hereafter "GARNER"]. The Examiner asserts that VOGÉ shows the recited features of the invention except for a temperature sensor positioned on one of the ink supply, metering device and ink nozzle, but that it would have been obvious to modify VOGÉ to include a temperature sensor located in the ink supply, because GARNER teaches a temperature sensor located in the ink supply. Applicants traverse the Examiner's assertions.

As discussed above, Applicants note that VOGÉ not only fails to teach or suggest a cooling plate and the ink supply, metering device, and ink nozzle are at least partially located on the cooling plate, as recited in at least independent claim 1, but expressly teaches against such a feature in that VOGÉ expressly discloses that heaters are utilized in order to prevent the ink from cooling.

Applicants note GARNER is directed to a circulation system (27) having a closed system of conduits that circulates a fluid such as water through the ink vibrator rollers (25) and through a heat exchanger in the refrigeration and heating system (33). The refrigeration and heating system (33) provide either a heat source (heat) or a heat sink (cooling) for the circulating fluid, so as to provide the temperature regulation of the fluid. Each sensor (31) determines the temperature of the ink on an ink vibrator roller (25), and if the temperature is outside of a specified range, then a controller that is connected to the sensor operates the respective control valve (29) to allow fluid to circulate through the respective ink vibrator roller. The circulating fluid thus maintains the ink in the desired temperature range. (See Col. 3, lines 14-30).

However, like VOGÉ, GARNER fails to teach or suggest *a cooling plate and the ink supply, metering device, and ink nozzle being at least partially located on said cooling plate*, as recited in at least independent claim 1.

Because neither document teaches or suggests the above-noted features of the invention, Applicants submit that no proper combination of these documents can render unpatentable the combination of features recited in at least independent claim 1.

Moreover, Applicants note that, as GARNER fails to provide any teaching or suggestion for modifying VOGÉ in a manner contrary to its express disclosure, i.e., the ink

is not to be cooled down, the art of record fails to show the requisite motivation or rationale for combining the art of record in any manner that would render unpatentable the present invention.

Further, Applicants submit that claim 15 is allowable at least for the reason that these claims depend from allowable base claims and because these claims recite additional features that further define the present invention. Moreover, Applicants submit that, as the above-noted claims recite additional features of the invention not disclosed by any proper combination of VOGÉ in view of GARNER, these further claims are separately patentable over the art of record.

Accordingly, Applicants request that the Examiner reconsider and withdraw the rejection of claim 15 under 35 U.S.C. §103(a) and indicate that these claims are allowable.

3. Over VOGÉ in view of DILLIG

Applicants traverse the rejection of claim 17 under 35 U.S.C. §103(a) as being unpatentable over VOGÉ in view of DILLIG, Jr. et al. (U.S. Patent No. 5,810,927) [hereinafter "DILLIG"]. The Examiner asserts that VOGÉ shows the recited features of the invention except for any pressure measurement devices in the ink nozzle, but that it would have been obvious to modify VOGÉ to include a pressure sensor in the ink nozzle, because DILLIG teaches a pressurized inking system. Applicants traverse the Examiner's assertions.

Applicants again note VOGÉ not only fails to teach or suggest a cooling plate and the ink supply, metering device, and ink nozzle are at least partially located on the cooling plate, as recited in at least independent claim 1, but expressly teaches against such a

feature in that VOGÉ expressly discloses that heaters are utilized in order to prevent the ink from cooling.

Further, Applicants note DILLIG is directed to a pressurized inking system 100 having a pressure monitor 17 to ensure that an adequate ink supply is provided at all times, as well as an ink supply 2 portion and ink return portion 16 comprising a closed system. See Col. 3, lines 60 – 67 and Col. 4, lines 1 – 9. However, like VOGÉ, DILLIG fails to teach or suggest *a cooling plate and the ink supply, metering device, and ink nozzle being at least partially located on said cooling plate*, as recited in at least independent claim 1.

Because neither document teaches or suggests the above-noted features of the invention, Applicants submit that no proper combination of these documents can render unpatentable the combination of features recited in at least independent claim 1.

Moreover, Applicants note that, as DILLIG fails to provide any teaching or suggestion for modifying VOGÉ in a manner contrary to its express disclosure, i.e., the ink is not to be cooled down, the art of record fails to show the requisite motivation or rationale for combining the art of record in any manner that would render unpatentable the present invention.

Further, Applicants submit that claim 17 is allowable at least for the reason that these claims depend from allowable base claims and because these claims recite additional features that further define the present invention. Moreover, Applicants submit that, as the above-noted claims recite additional features of the invention not disclosed by any proper combination of VOGÉ in view of DILLIG, these further claims are separately patentable over the art of record.

Accordingly, Applicants request that the Examiner reconsider and withdraw the

rejection of claim 17 under 35 U.S.C. §103(a) and indicate that these claims are allowable.

Newly Submitted Claims are Allowable

Applicants note that new claims 35 – 48, which depend from either independent claim 18 or independent claim 34, both of which have been shown to be allowable over the art of record, are allowable at least for the reason that it depends from an allowable base claim and because it recites additional features that further define the present invention.

Accordingly, Applicants request that the Examiner consider the merits of new claims 35 – 48 and indicate the allowance of these claims in the next official communication.

Application is Allowable

Thus, Applicants respectfully submit that each and every pending claim of the present invention meets the requirements for patentability under 35 U.S.C. § 102 and § 103, and respectfully requests the Examiner to indicate allowance of each and every pending claim of the present invention.

CONCLUSION

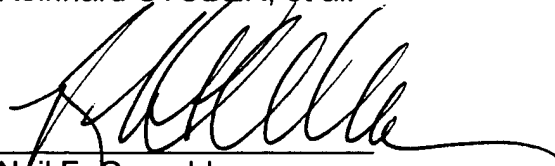
In view of the foregoing, it is submitted that none of the references of record, either taken alone or in any proper combination thereof, anticipate or render obvious Applicants' invention, as recited in each of claims 1, 2, 4 – 6, 8, 10 – 20, 22, 23, and 25 – 48. The applied references of record have been discussed and distinguished, while significant claimed features of the present invention have been pointed out.

Further, any amendments to the claims which have been made in this response and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Accordingly, reconsideration of the outstanding Office Action and allowance of the present application and all the claims therein are respectfully requested and now believed to be appropriate.

Should the Examiner have any questions, please contact the undersigned at the telephone number provided below.

Respectfully submitted,
Reinhard STÜBER, et al.

A handwritten signature in black ink, appearing to read 'Neil F. Greenblum', written over a horizontal line.

Neil F. Greenblum
Reg. No. 28,394

Robert W. Mueller
Reg. No. 35,043

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GREENBLUM & BERNSTEIN, P.L.C.
1950 Roland Clarke Place
Reston, VA 20191
(703) 716-1191